

Title

Building Critical Thinking Skills for Online Research

Target Audience

This course is designed for current and pre-service teachers of grades K-12.

Facilitator

TBA

Credit

To be determined by college or university

Course Description

This course is designed to give educators strategies to help students build critical thinking skills and attain information literacy. Learners will explore different information search process models and strengthen their online research skills. Learners will then create a model for use in an Internet-based lesson that is designed to teach students where to find information, how to evaluate it, and how best to apply it to the task at hand.

Standards

This course will help the teacher meet National Education Technology (NET) standards 1, 2, 3, 5 and 6.

Learning Outcomes

After completion of this course, the learner will be able to:

- Explain the information search process and describe how it can support critical thinking skills and increase information literacy.
- Compare and contrast several information search process models.
- Adapt or combine elements of the models to construct your own unique Information Search Process model.
- Apply your knowledge of information search processes to Internet-based classroom activities.
- Integrate your knowledge of the information search process into an Internet based lesson or unit to be used in your classroom.

Process

In each assignment the learner will access numerous online resources from high quality sources. Throughout the course, learners will also access video vignettes showing “best practice” examples for technology integration.

Assignment 1: Explore the issues around the use of an information search process and formulate goals for use of an information search process with your students.

In this assignment, learners explore the issues around the use of an information search process model. This will inform their current thinking about research and the information search process and help them identify the issues and goals that they will address in their own model.

Learners will:

Complete assignments and activities

- Explore the following Web resources:
 - "Library Skills, Information Skills, and Information Literacy: Implications for Teaching and Learning" by James O. Carey
 - "Learning Strands: The Information Search Process in Constructing Knowledge" by Pitts and Stripling
 - "Conducting Action Research on the Information Search Process" by Joan Yoshina
 - "Grazing the Net: Raising a Generation of Free Range Students" by Jamie McKenzie
 - "Filling the Toolbox: Classroom Strategies to Engender Student Questioning" by Jamieson A. McKenzie and Hilarie Bryce Davis
- Survey one of their classes and two fellow teachers about their personal problems with research using technology. Compose 5 to 10 questions to ask fellow teachers about evaluating Web sites and information from the Internet. (optional)
- Submit three or four key insights and issues gained from the readings. List the goals they identified as important for their students in an information search process.

Write in online journal

- Reflect on the following: Think about the last 5 times you searched for something on the Internet. Were your searches easy or hard? Why? What do you think you could do better next time in order to make them more efficient?

Participate in an online discussion

- Respond to the following: "There is so much information on the Internet these days that students can work much more independently during research. The teacher's job is so much easier!"

Additional Resources (not required)

- "Tips to Evaluate Internet Resources" from PBS TeacherLine
- Children and Media from PBS Parents
- "Information Literacy and Information Skills Instruction: Applying Research to Practice in the School Library Media Center" by Nancy Pickering Thomas

Assignment 2: Examine six information search process

In the last few decades, as educators have taken a serious look at information skills and the search process, several information search process models have been developed. In this assignment learners examine several of these models. They will use these models in the next assignment to help them design their own information search process model.

Learners will:

Complete assignments and activities

- Explore the following Web resources:
 - "The Research Cycle Model" by Jamie McKensie
 - "Information Search Process Model" by Carol C. Kuhlthau
 - "Kuhlthau's Information Search Process Model"



- "Information Seeking Models" by K.Alix Hayden
 - "The Big6 Model" by Eisener and Berkowitz
 - "S.C.O.P.E. Model"
 - "Comparing Model"
- Submit a completed table analyzing the main features of each search model. Note any features that will work particularly well for specific students.

Write in online journal

- Reflect on the following: Which of the models do you see as being more useful with your current groups of students, and why? Which model do you see as being least useful, and why?

Participate in an online discussion

- Respond to the following: In what ways are the models similar and different from each other?
OR What are the overall strengths and weaknesses of the models?

Additional Resources (not required)

- "Technology and Teaching Children to Read" from Colorín Colorado
- "Reading Software: Finding the Right Program" from LD Online
- "The Internet and the Early Childhood Classroom" from PBS Teachers

Assignment 3: Create your own information search process model

It is likely that none of the information search process models will be exactly right for learners' individual students. In this assignment, learners will create the steps for their own information search process model. In doing this, they will be identifying those steps that they consider most important to share with their own students.

Learners will:

Watch video

- Chris Somers, author of the course, discusses incorporation of the affective aspect of Kuhlthau's ISP Model into her use of the Big6™ Approach to Information Problem Solving.

Complete assignments and activities

- Explore the following Web resources:
 - "Library Skills, Information Skills, and Information Literacy: Implications for Teaching and Learning," by James O. Carey
 - "Learning Strands: The Information Search Process in Constructing Knowledge," by Pitts and Stripling
 - "Conducting Action Research on the Information Search Process," by Joan Yoshina
 - "Grazing the Net: Raising a Generation of Free Range Students," by Jamie McKenzie
 - "Filling the Toolbox: Classroom Strategies to Engender Student Questioning," by Jamieson A. McKenzie and Hilarie Bryce Davis
- Write a detailed description and name for your new model. Describe why you incorporated certain elements and eliminated other elements.

Write in online journal

- Reflect on the following: Did you seem to base your own model on any one of the ones you studied? (If yes, which one, and why?) Or, was your model more eclectic? If so, why? What was your reasoning? Which one do you think lends itself to one grade level/curriculum department more easily than the others, and why?

Participate in an online discussion

- Respond to the following: What was the most challenging part of developing your model? How did you overcome this challenge? What advice could you give to others doing this same task?

Additional Resources (not required)

- Time Travel lesson plan from NOVA
- New Energy Age lesson plan from PBS
- Interview A Famous Greek: Reconstructing the Lives of the Ancient Greeks lesson plan from PBS
- Lost Liners lesson plan from PBS

Assignment 4: Create a visual representation of your model

Using the information search process model learners created in Assignment 3, they will develop a visual representation of the model. This will help them communicate the process and provide scaffolding for students to build their understanding.

Learners will:

Watch video

- Chris Somers, author of the course, discusses her use of a fishing analogy to represent the Big6™ Approach to Information Problem Solving and how she further helps students understand the Big6 process by having them create their own analogies.

Complete assignments and activities

- Explore the following Web sites:
 - “The Design of Browsing and Berrypicking Techniques for the Online Search Interface”
 - “Big6™ Resources”
 - “Cybertours for Information Searchers”
 - Kathy Schrock's Guide for Educators
- Submit a graphic depiction or written description of the visual representation of your model. Include any analogies or metaphors you used to help communicate the process.

Write in online journal

- Reflect on the following: Are you a visual learner? Describe a time when a visual representation helped you. Do you teach to visual learners? How much do you think that visual representations help your students?

Participate in an online discussion

- Respond to the following: Create a post in the forum and describe the visual representation of your model. Include a description of any aspects of your visual representation that are troubling you and elaborate on an aspect that you're particularly pleased with.
- Review the posts of your fellow learners and provide constructive feedback to at least one other learner using the Representation of Model rubric and the Peer Review guidelines.

Additional Resources (not required)

- “Adapting the Curriculum to Meet the Needs of Diverse Learners” from PBS Teachers
- “How to Develop a Lesson Plan that Includes ELLs” from Colorín Colorado
- Attention: Responses from Misunderstood Minds



- Reading: Responses from Misunderstood Minds
- Writing: Responses from Misunderstood Minds
- Mathematics: Responses
- Wiggins, G. & McTighe, J. (2005). *Understanding by design*. Association for Supervision and Curriculum Development

Assignment 5: Develop or adapt a lesson or unit that utilizes the Internet to teach one of the steps in your model

In this assignment learners will adapt or create a lesson or unit that utilizes the Internet for seeking information to teach students one of the steps in their information search process model.

Learners will:

Watch video

- Chris Somers, author of the course, talks about FrogQuest, an interdisciplinary project that takes the information search process into the field.

Complete assignments and activities

- Develop a lesson that teaches one step of the process model.
- Provide a description of the lesson.
- Share the lesson with another teacher and/or your school media specialist. Ask for comments, questions, and suggestions.

Write in online journal

- Reflect on the following: After speaking with your colleague, what were the most important points you learned about your lesson? Were you surprised at the feedback you received? What did you do well? What do you need to improve on, and why?

Participate in an online discussion

- Respond to the following: Do you feel you are prepared to teach your lesson by yourself, or do you feel that you'd like to team with a colleague? What are your thoughts on collaborative teaching? What do you find difficult or easy about it? Share your thoughts with your fellow learners.

Additional Resources (not required)

- PBS Teachers Web site from PBS
- Frontline's Teacher Center from PBS
- NOW: For Educators from PBS
- Wide Angle: Global Classroom from PBS
- "Generating Questions: Using Critical Thinking Skills" from Colorín Colorado
- Technology Integration: Student Learning from PBS Teachers

Final Project (Solution)

Before you submit your final project, you should review your submissions. This will allow you to review the work you have done in order to complete your final project. You should make sure you are meeting each of the final project criteria. Review each section to ensure that all are complete and have been edited for content and grammar. You may want to submit your project draft to a peer or colleague to assist with editing. When you are ready to submit your final project, compile the following sections:

Submit your completed information search process model and your completed lesson plan. Your information search process model should:

- Have 3 to 8 clearly defined steps
- Support the goals you identified as important for your students in an information search process

Your lesson plan should:

- Identify the step of the model you are addressing
- State your goal(s)
- Be clearly laid out in a step by step manner
- Present strategies in sufficient detail so that a clear picture of what will happen is provided
- Identify materials and resources required
- Involve students in self assessment during the lesson
- Explain how the success of the lesson will be assessed
- Define the length of the collection of lessons and the timeline for completing it

Schedule

This course is scheduled to take approximately 30 hours to complete this course. Each session should take approximately four to five hours. If you find yourself spending several hours more than this in any given session, please contact your facilitator to make sure this is necessary to complete the given assignments.

Requirements

Learners are expected to:

- Complete all assignments
- Maintain an online journal
- Participate and actively engage in discussions with fellow learners while contributing to the social construction of knowledge.
- Be self-directed and self-motivated.
- Ask for assistance when they need it.

Facilitators are expected to:

- Provide feedback to learners
- Participate in discussions to keep them moving forward
- Provide assistance to learners who need it

Materials (hardware, software, plug-ins)



Technical Requirements

- Word processor
- Internet service provider
- E-mail

Academic Dishonesty Policy

To be inserted by university institution only

Evaluation

This course is evaluated on a letter grade basis, and may be available for graduate credit. See graduate credit details pertaining to specific graduate credit institutions.

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